

IN THE CLAIMS

1. - 25. (Cancelled)

26. (Currently Amended) A human influenza immunogenic composition comprising a fusion product, said fusion product comprising

(i) an antigen consisting essentially of an immunogenic extracellular part of an M2 membrane protein of a human influenza A virus as defined by SEQ ID NOs: 1, 2 or 3, or a functional fragment thereof that elicits a statistically significant higher immunoprotection when administered in an immunoprotective dose to test members of a species than is found in control members of the same species not receiving the functional fragment, and

(ii) a heterologous peptide or polypeptide presenting carrier that is selected from the group consisting of a hepatitis B core protein, C3d, polypeptides comprising multiple copies of C3d, and tetanus toxin fragment C.

27. - 30. (Cancelled)

31. (Previously Presented) The influenza immunogenic composition of claim 26, wherein the presenting carrier enhances the immunogenicity of the antigen.

32. (Previously Presented) The influenza immunogenic composition of claim 31, wherein the presenting carrier comprises an epitope recognized by an influenza-specific T helper cell or cytotoxic T cell.

33. (Cancelled)

34. (Previously Presented) The influenza immunogenic composition of claim 26, wherein the immunogenic composition comprises Lactococci cells expressing said fusion product in or on their cell membrane, and said cells optionally release said fusion product.

35. (Cancelled)

36. (Previously Presented) The influenza immunogenic composition of claim 26, wherein the fusion product is in an isolated form.

37. (Previously Presented) The influenza immunogenic composition of claim 26, wherein the fusion product is anchored in the membrane of an acceptor cell expressing the fusion product.

38. (Previously Presented) The influenza immunogenic composition of claim 26, wherein the fusion product is part of a lipid bilayer or cell wall.

39. (Previously Presented) The influenza immunogenic composition of claim 26, wherein the influenza immunogenic composition comprises Lactococci cells expressing the fusion product in or on their cell wall.

40. (Previously Presented) The influenza immunogenic composition of claim 26, further comprising an influenza antigen selected from the group consisting of hemagglutinin, neuraminidase, nucleoprotein and native M2.

41. (Currently Amended) A method of obtaining a human influenza immunogenic composition, comprising

providing a fusion product, said fusion product comprising (i) an antigen consisting essentially of an immunogenic extracellular part of an M2 membrane protein of a human influenza A virus as defined by SEQ ID NOs: 1, 2 or 3, or a functional fragment thereof that elicits a statistically significant higher immunoprotection when administered in an immunoprotective dose to test members of a species than is found in control members of the same species not receiving the functional fragment, and

(ii) a heterologous peptide or polypeptide presenting carrier that is selected from the group consisting of a hepatitis B core protein, C3d, polypeptides comprising multiple copies of C3d, and tetanus toxin fragment C; and mixing it with an excipient.

42. - 45. (Cancelled)

46. (Currently Amended) A human influenza immunogenic composition obtained by the following steps:

providing a nucleic acid construct that encodes a fusion product, said fusion product comprising (i) an antigen consisting essentially of an immunogenic extracellular part of an M2 membrane protein of a human influenza A virus as defined by SEQ ID NOs: 1, 2 or 3, or a functional fragment thereof that elicits a statistically significant higher immunoprotection when administered in an immunoprotective dose to test members of a species than is found in control members of the same species not receiving the functional fragment, and (ii) a heterologous

peptide or polypeptide presenting carrier that is selected from the group consisting of a hepatitis B core protein, C3d, polypeptides comprising multiple copies of C3d, and tetanus toxin fragment C;

introducing the nucleic acid construct into an acceptor cell;

culturing the acceptor cell under conditions that allow expression of the fusion product;

optionally isolating the fusion product from the acceptor cell or its culture medium, and

optionally admixing the fusion product with an excipient,

thereby obtaining a human influenza vaccine comprising the fusion product.

47. - 51 (Cancelled)

52. (Previously Presented) The influenza immunogenic composition of claim 26, wherein the influenza immunogenic composition comprises a cytokine.

53. (Previously Presented) The influenza immunogenic composition of claim 26, wherein the influenza immunogenic composition comprises a vaccine adjuvant that is not Freund's adjuvant.

54. (Currently Amended) An influenza immunogenic composition for an animal species comprising a fusion product, said fusion product comprising

(i) an antigen consisting essentially of an immunogenic extracellular part of an M2 membrane protein of an influenza A

virus as defined by SEQ ID NOs: 1, 2 or 3, or a functional fragment thereof that elicits a statistically significant higher immunoprotection when administered in an immunoprotective dose to test members of a species than is found in control members of the same species not receiving the functional fragment; and

(ii) a heterologous peptide or polypeptide presenting carrier that is selected from the group consisting of a hepatitis B core protein, C3d, polypeptides comprising multiple copies of C3d, and tetanus toxin fragment C.

55. (Previously Presented) The influenza immunogenic composition of claim 26, wherein the fusion product comprises the entire extracellular domain of the M2 protein.

56. (Previously Presented) The influenza immunogenic composition of claim 55, wherein the amino acid sequence of said entire extracellular domain is SEQ ID NO:1, 2, or 3.

57. (Cancelled)

58. (Currently Amended) A human influenza immunogenic composition comprising a fusion polypeptide, said fusion polypeptide comprising

(i) an antigen that consists essentially of an immunogenic extracellular part of an M2 membrane protein of a human influenza A virus as defined by SEQ ID NOs: 1, 2 or 3, or a functional fragment thereof that elicits a statistically significant higher immunoprotection when administered in an immunoprotective dose to test members of a species than is found in control members of the same species not receiving the functional fragment, and

(ii) a heterologous peptide or polypeptide presenting carrier,

said fusion polypeptide being the expression product of a gene construct comprising a coding sequence for said immunogenic extracellular part of an M2 membrane protein of a human influenza virus A of (i) linked to a coding sequence for a said presenting carrier peptide or polypeptide of (ii).

59. (Cancelled)

60. (Previously Presented) The influenza immunogenic composition of claim 58, wherein said heterologous peptide or polypeptide presenting carrier is selected from the group consisting of a hepatitis B core protein, C3d, polypeptides comprising multiple copies of C3d, and tetanus toxin fragment C.

61. (Previously Presented) The influenza immunogenic composition of claim 60, wherein said heterologous peptide or polypeptide presenting carrier is the hepatitis B core protein.